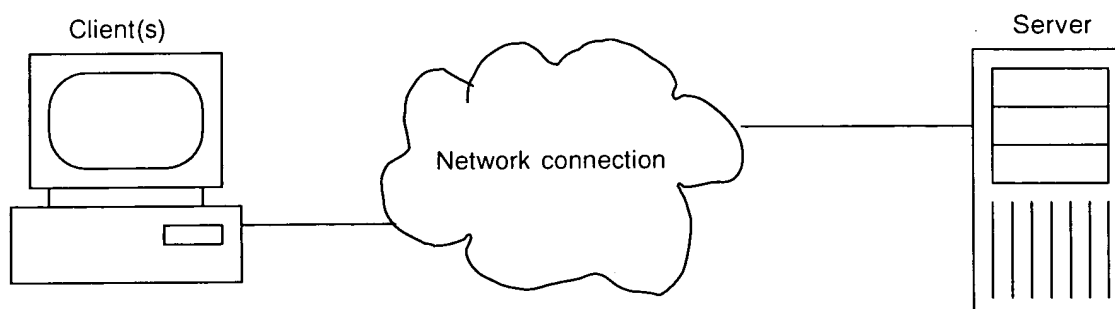


## Preferred Embodiment Minimal configuration (Single Server)

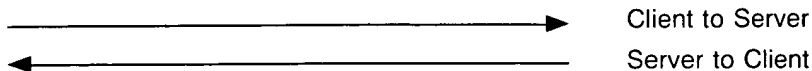
Fig. 0a



If valid cookie present, skip to step 3...

- |      |   |                                   |
|------|---|-----------------------------------|
| (0)  | Client retrieves disclaimer / registration, etc. page                     |                                   |
| (1)  | Client submits acceptance / registration data, etc.                       |                                   |
| (2)  | Server replies with cookie data initialization                            |                                   |
| <br> |   |                                   |
| (3)  | Client retrieves user interface for simulation, calculation, etc.         |                                   |
| (4)  | Client submits data for calculation: calculation data                     | (data saved)                      |
| (5)  | Server returns "Processing" message w/ emb. refresh + updated cookie data |                                   |
| (6)  | Client auto refresh to getresults.pl + new cookie data                    | (authenticate & check vs. limits) |
| (7a) | "Overuse" message   | if fail                           |
| (7b) | Results ( Any combo of markup, graphics and data )*                       | if succeed                        |

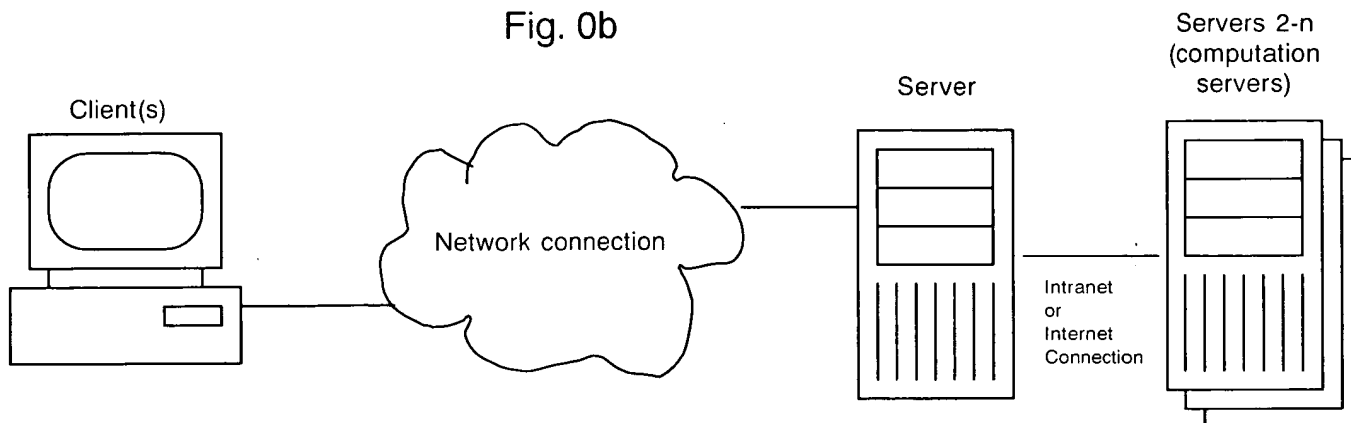
*In drawings 1-4 Client instigates data transfer,  
arrows indicate direction of transfer*



OPTIONAL VALIDATION DATABASE NOT SHOWN  
IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,  
BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

# Internet Server combined with one or more Private Computation Servers

Fig. 0b



If valid cookie present, skip to step 3...

- (0) Client retrieves disclaimer / registration, etc. page  
 (1) Client submits acceptance / registration data, etc.  
 (2) Server replies with cookie data initialization

(3) Client retrieves user interface for simulation, calculation, etc.

(4) Client submits data for calculation: calculation data (data saved)

(5) Server returns "Processing" message w/ emb. refresh + updated cookie data

(6) Client auto refresh to getresults.pl + new cookie data (authenticate & check vs. limits)

(7a) "Overuse" message

if fail

if succeed → compute  
 Choose server  
 and send  
 relevant data

Return raw data

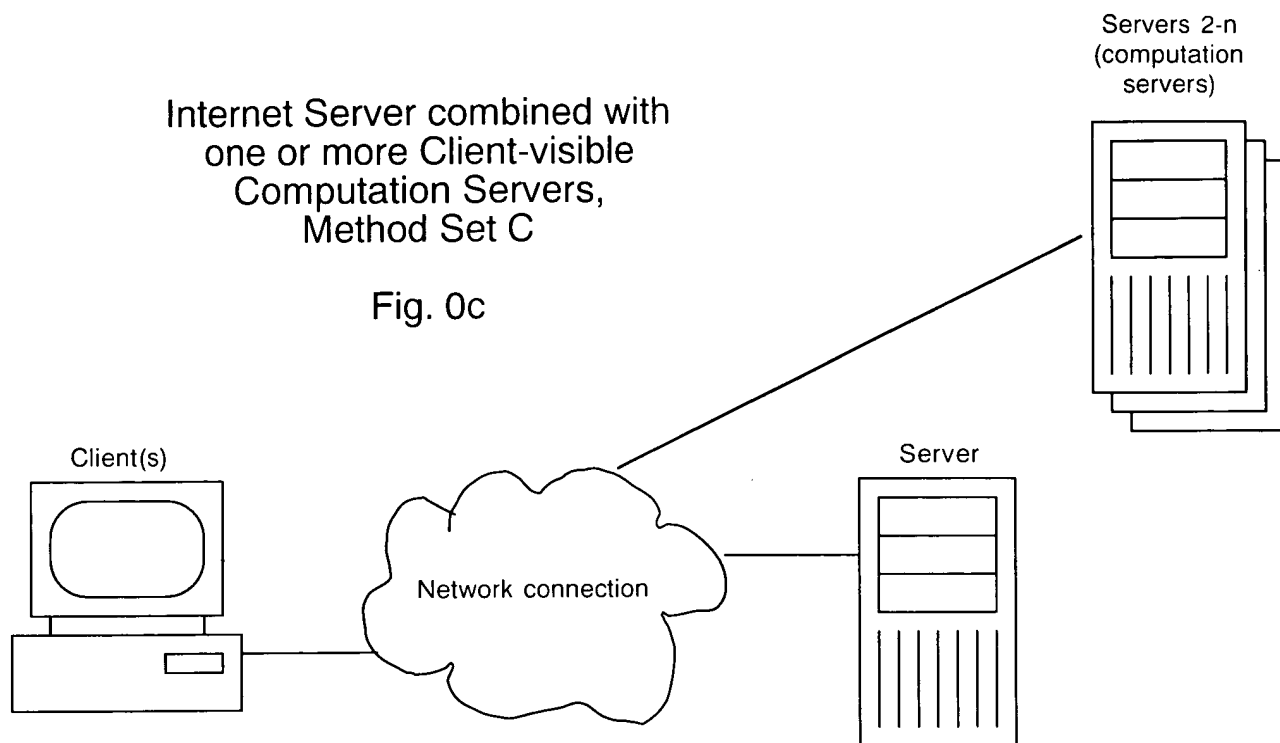
(7b) Results ( Any combo of markup, graphics and data )\*

(optional)  
 format raw data

OPTIONAL VALIDATION DATABASE NOT SHOWN  
 IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,  
 BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

Internet Server combined with  
one or more Client-visible  
Computation Servers,  
Method Set C

Fig. 0c



If valid cookie present, skip to step 3...

- |     |   |
|-----|---|
| (0) | Client retrieves disclaimer / registration, etc. page |
| (1) | Client submits acceptance / registration data, etc.   |
| (2) | Server replies with cookie data initialization        |

(3) Client retrieves user interface for simulation, calculation, etc.

(4) Client submits data for calculation: calculation data (data saved)

(5) Server returns "Processing" message w/ emb. refresh + updated cookie data

(6) Client auto refresh to getresults.pl + new cookie data (authenticate & check vs. limits)

(7a) "Overuse" message

if fail

if succeed

compute

Choose server  
and send  
relevant data,  
forward client  
to computation  
server

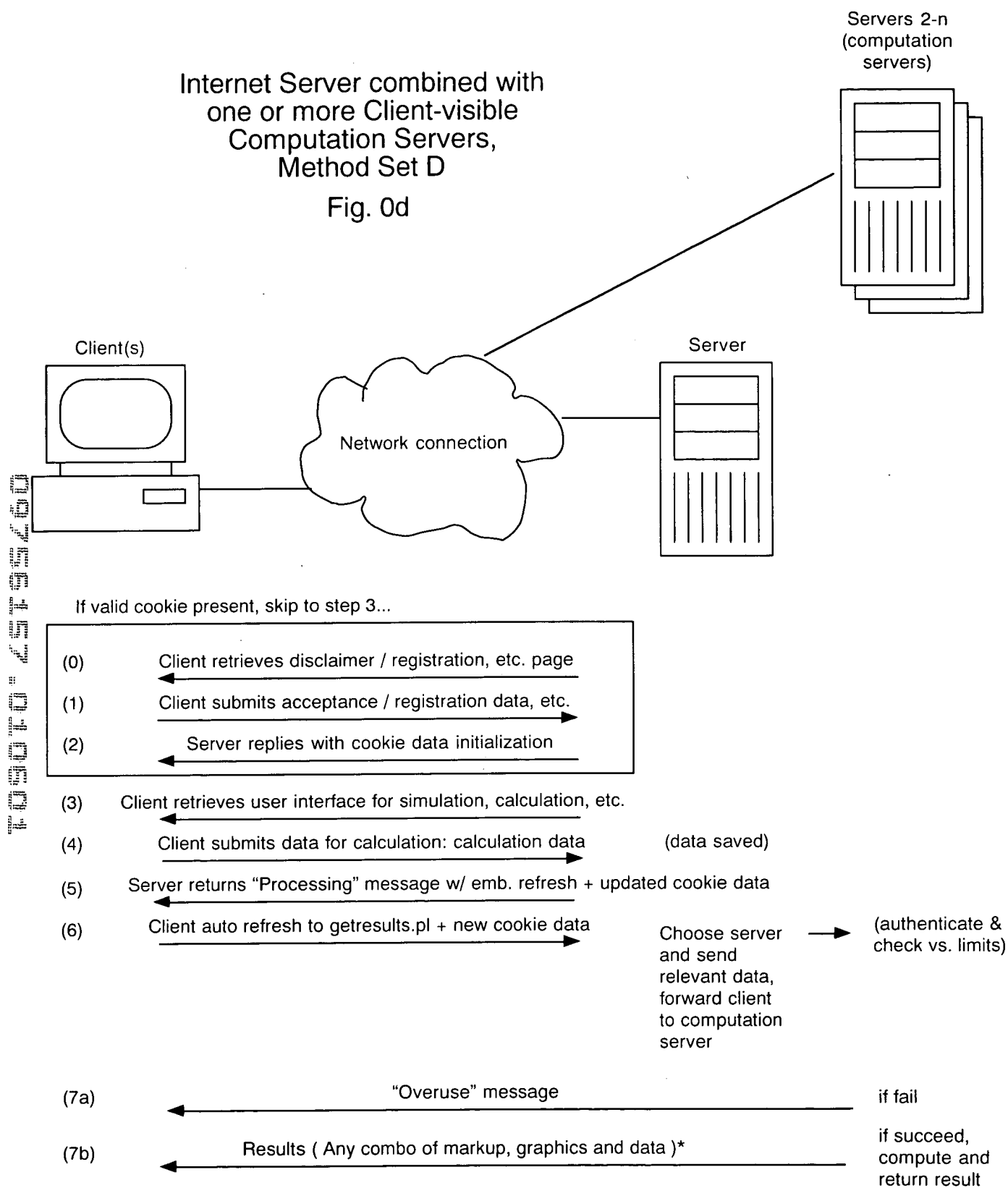
(7b) Results ( Any combo of markup, graphics and data )\*

and return  
results

OPTIONAL VALIDATION DATABASE NOT SHOWN  
IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,  
BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

Internet Server combined with  
one or more Client-visible  
Computation Servers,  
Method Set D

Fig. 0d



OPTIONAL VALIDATION DATABASE NOT SHOWN  
IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,  
BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

**Disclaimer - Netscape**

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Bookmarks Location <http://24.218.251.135/cgi-bin/Stackup/ci.pl>

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Applet AcceptDecline running

Fig. 1  
D5

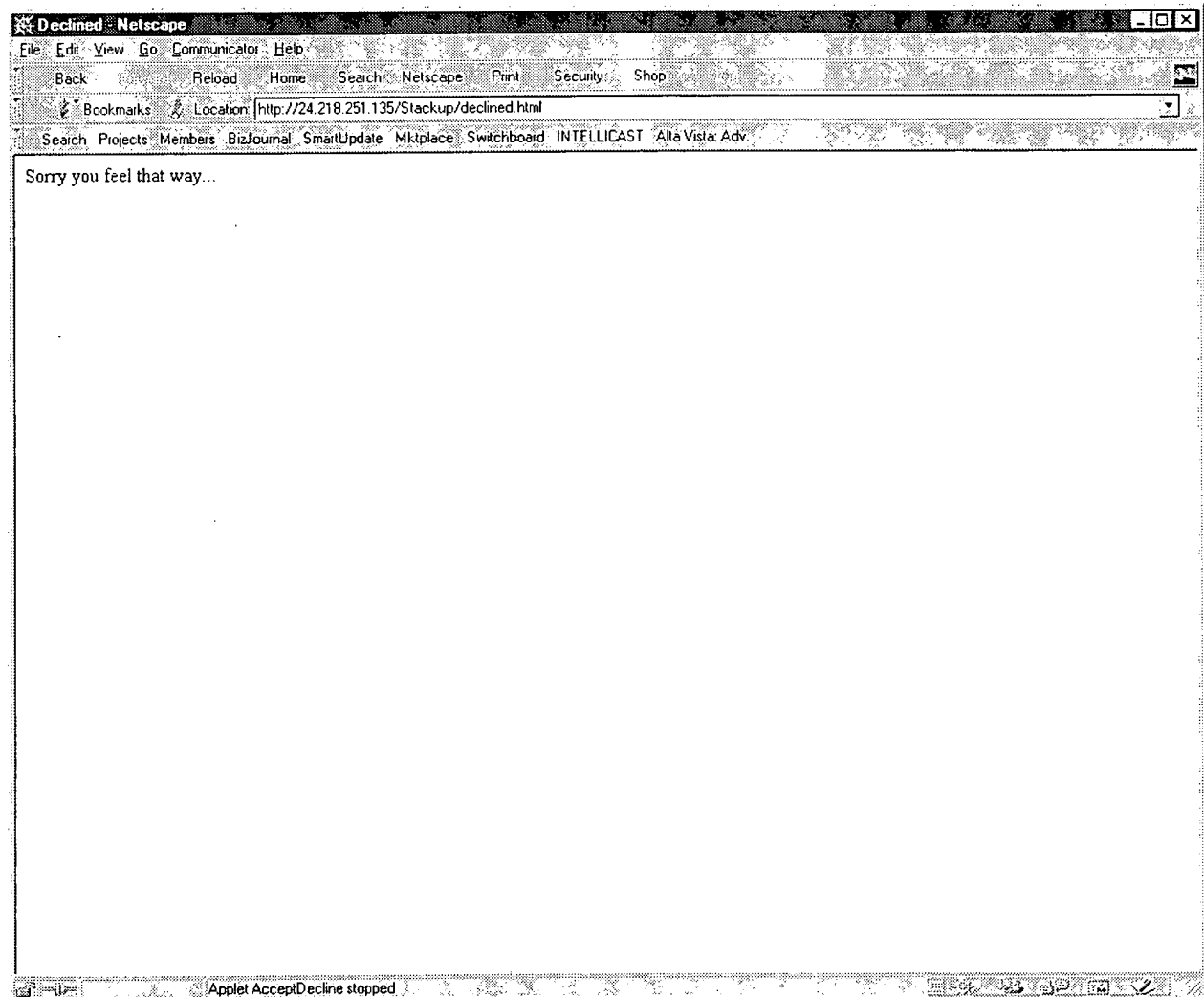


Fig. 2A  
D6

Netscape: EHPERIMENTAL PCB Cross Section Editor

Location: <http://24.218.253.91/cgi-bin/FieldExtractor2/cip1> What's Related

Configuration: Coupled Microstrips Units: mil

**Setup**

Extract: Execute

Upper Left X:  Upper Left Y:

Width:  Height:

Drill (dip):  Name:

Copper: Copper

Rel. permittivity:  Loss tangent:

Conductivity (S/in):  Mod. plate (mm):

Mod. permittivity:

**Instructions**

This evaluation version is limited to just two signal lines; no geometry can be added. Standard configurations are most easily created by selecting a Configuration first, then clicking "Setup" and entering the desired parameters.

A setup can then be customized by modifying the position or size of the signal line with the numeric entry panel at left. After you're satisfied with the new numeric values, press **Enter** to make the changes permanent. Alternatively, you can click-drag the geometry into approximate position and then use the up or down arrows to nudge into final position.

You can see how far the selected item is from its adjacent elements by moving the cursor over the adjacent element of interest. If elements overlap, a negative number is shown.

Fig. 2B  
D7

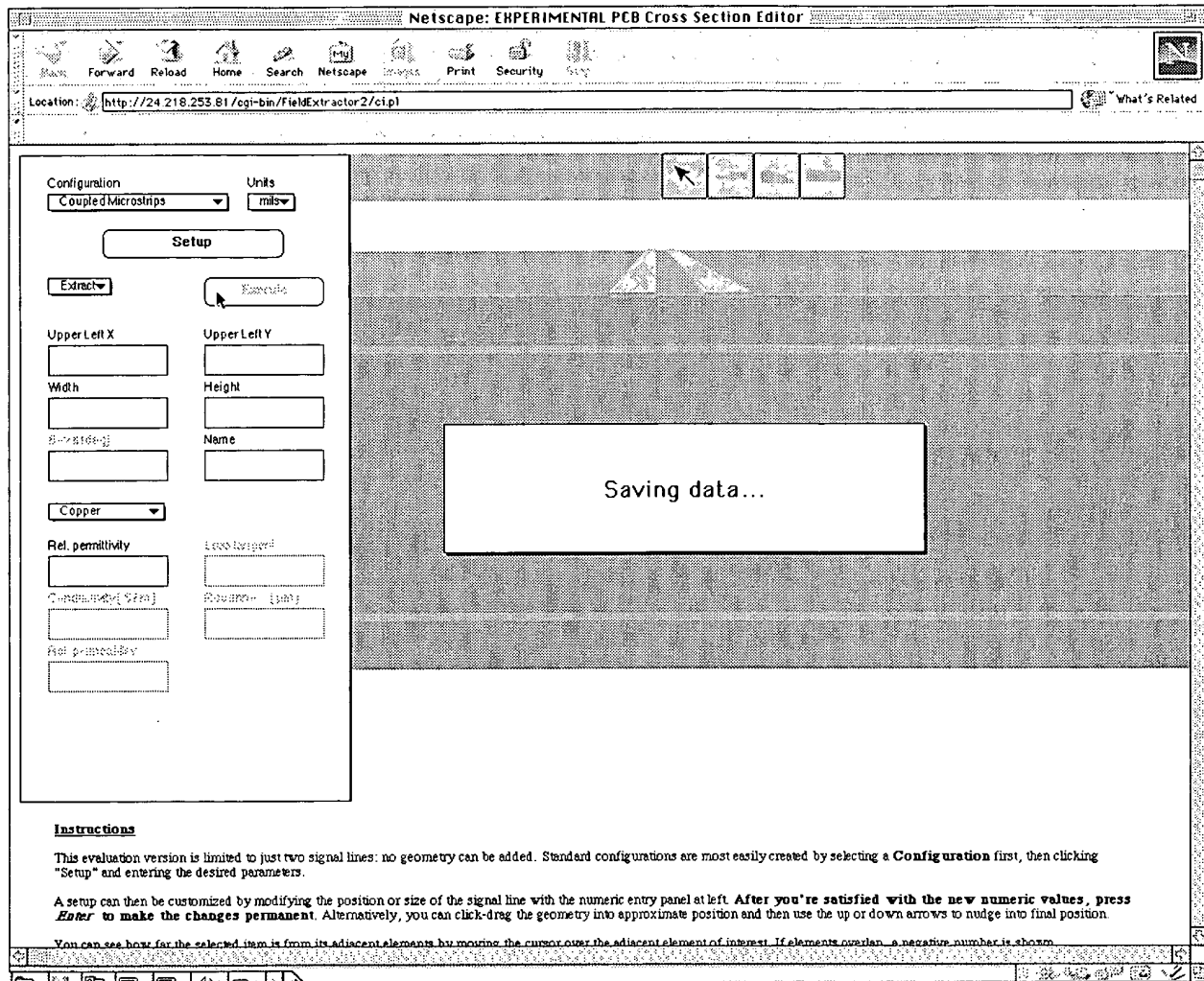
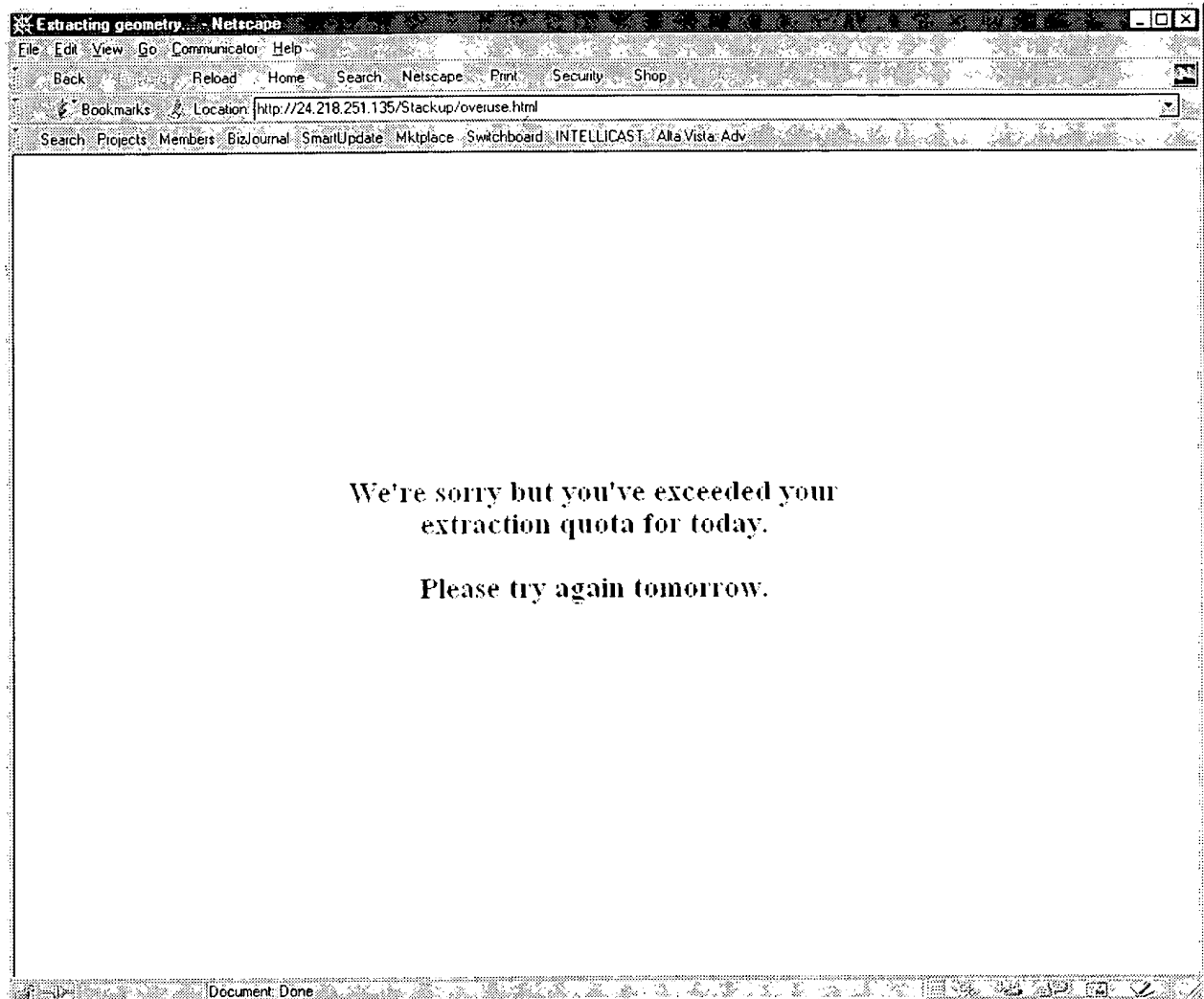


Fig. 3  
D8



2003/07/24 16:04:04

Fig. 4A  
D9

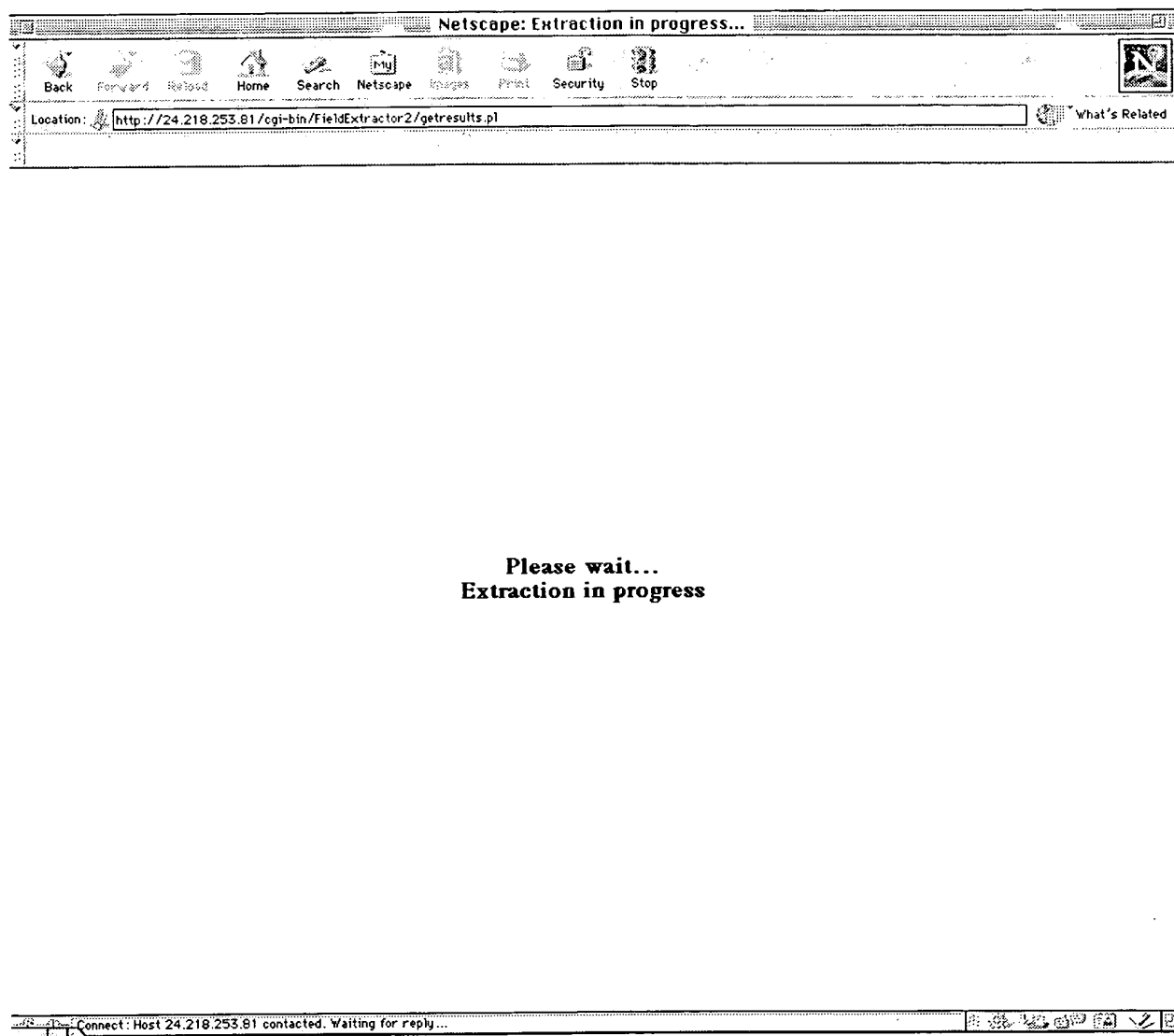


Fig 4B  
D10

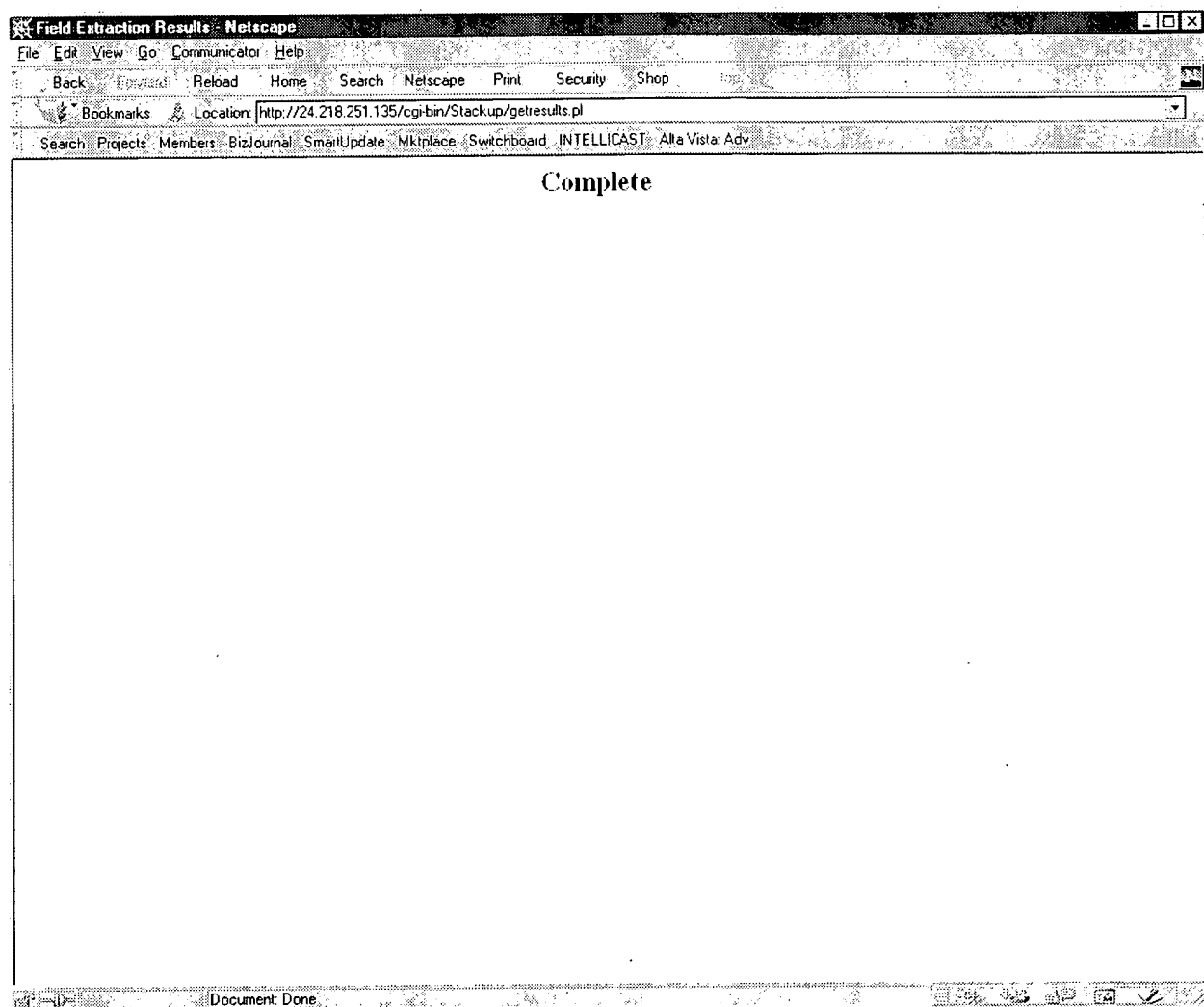


Fig 5  
D11